

REMARKS

Introduction

Applicant affirms the election of Group I, claims 1 – 33. With respect to the Group II claims 34 – 40, Applicant understands such claims will be considered during prosecution once amended in accordance with the limitations for allowability of the Group I claims under prosecution. At this time, although Applicant is of the viewpoint, as expressed below, that all Group I claims are now allowable, amendment has not been made to the Group II claims. Once Group I claims are indicated to be allowable, Group II claims will be amended to be consistent therewith.

In paragraph 40 of the Office Action, dependent claim 8 is indicated as being directed to allowable subject matter. At this time, claim 8 has not been rewritten in independent form, since as explained below, Applicant believes that claim 6, upon which claim 8 depends, is now in allowable condition.

The prior art rejections

1. The rejection of claims 1 – 5, 12 – 20 and 22 – 29 under 35 U.S.C. 102(b) over Wagner et al in paragraphs 2 to 21 of the Office Action

Claims 1 – 5, 12 – 20 and 22 – 29 are rejected under 35 U.S.C. 102(b) as anticipated by Wagner et al.

Independent claim 1 is clearly novel over the disclosure of Wagner et al. Once the novelty of claim 1 is understood, then the remaining rejected claims, all of which are dependent directly or indirectly upon claim 1, are also novel over the Wagner et al reference.

Wagner et al provides a biosensor comprising a substrate coated at least in part with an organic thinfilm. The Examiner incorrectly reads Applicant's hydrophobic polymer on the thinfilm of the reference.

The organic thinfilm of Wagner et al is described in detail beginning at column 7, line 57 of the reference. Although Wagner does contemplate a hydrophobic **short** molecule film as its organic thinfilm, Wagner does not describe the organic thinfilm as being a hydrophobic polymer. For example, the most relevant portion of the organic thinfilm disclosure of Wagner et al may be with respect to the self-assembled monolayer at column 15, lines 48 – 64, wherein R is further defined in the paragraph bridging columns 17 and 18 of the reference as including alkyl, etc., chain of about 1 to 400 carbons long. However, these hydrocarbon chains are not hydrophobic polymers. Therefore, it is respectfully requested that this anticipation rejection be reevaluated and withdrawn. If the Examiner maintains this rejection based on Wagner et al, Applicant respectfully requests that the Examiner point out in detail exactly where the reference discloses a hydrophobic polymer on a biosensor substrate.

2. The rejection of claims 1, 2, 6, 7 and 9 under 35 U.S.C. 102(b) over Allen et al in paragraphs 22 – 26 of the Office Action

Claims 1, 2, 6, 7 and 9 are rejected under 35 U.S.C. 102(b) as anticipated by Allen et al. Out of these claims, claims 1 and 6 are generic claims. As explained below, claims 1 and 6 are novel over Allen et al. Once this is understood, the rejected claims dependent upon claims 1 and 6 are novel for the same reasons that their independent claim is novel over Allen et al.

As to claim 1, the Examiner refers to the acrylic polymers at column 2, lines 64 – 67 of Allen et al., as used in a biosensor. Amended claim 1 is clearly novel over Allen et al because

the reference does not disclose the presence of functional groups capable of immobilizing a physiologically active substance in association with the hydrophobic polymer. Since the acrylic polymers of the reference do not have such functional groups, claims 1 and 2 are novel over Allen et al.

Independent claim 6 requires that the surface of the biosensor be coated with a film having a defined swelling degree. The Examiner references disclosure in Allen et al stating that its acrylic polymers can absorb 10 to 50% of its dry weight of water. However, the Examiner never explains how such a disclosure relates to a swelling degree of between 1 and 5. Claim 6 is novel over the reference, since the reference does not discuss swelling degree at all, and certainly not a swelling degree of 1 to 5 in pure water at 25 degrees C. If this rejection is maintained, the Examiner is respectfully requested to clearly explain how the absorption of the reference relates to the defined swelling degree of claim 6.

For the above reasons, the rejection of claims 1, 2, 6, 7 and 9 over Allen et al based on lack of novelty should be reconsidered and withdrawn.

3. The rejection of claims 1, 2, 3 and 21 under 35 U.S.C. 102(b) over Yu in paragraph 27 of the Office Action

Claims 1, 2, 3 and 21 are rejected as being anticipated under 35 U.S.C. 102(b) over Yu. This rejection is untenable and should be withdrawn.

Yu does not disclose a hydrophobic polymer on the surface of a biosensor and certainly not such a polymer having a functional group as recited in claim 1. Yu discloses a diamond like carbon surface. Further, Yu does not even relate to a biosensor. Claims 2, 3 and 21 depend upon

claim 1, and therefore are patentable over Yu for the same reasons why claim 1 is patentable over the reference. The rejection based on Yu should be reconsidered and withdrawn.

4. The rejection of claims 10 and 11 under 35 U.S.C. 103(a) over Allen et al in view of Wagner et al in paragraphs 30 and 31 of the Office Action

Claims 10 and 11 are rejected as being unpatentable (obvious) under 35 U.S.C. 103(a) over Allen et al in view of Wagner et al.

Claims 10 and 11 depend upon claim 6. As previously discussed, Allen et al does not teach the swelling degree of claim 6. Since Wagner et al is merely cited for the metal surface or metal film of claims 10 and 11, it does not aid the rejection of the subject matter of claim 6. Accordingly, claims 10 and 11 are patentable over the cited references.

Reconsideration and withdrawal of the rejection of claims 10 and 11 over Allen et al in view of Wagner et al are respectfully requested.

5. The rejection of claims 30 – 33 under 35 U.S.C. 103(a) over Wagner et al further in view of Targoz in paragraphs 32 – 35 of the Office Action

Claims 30 - 33 are rejected as being unpatentable under 35 U.S.C. 103(a) over Wagner et al in view of Targoz. In this rejection, Wagner et al is cited for all of the limitations of generic claim 30, except for the inclusion of the surfactant. Although Applicant must submit that the secondary reference of Targoz is directed to non-analogous art (nylon hosiery), amended claim 30 now describes the hydrophobic polymer as having functional groups capable of immobilizing a physiologically active substance, which as discussed above with respect to claim 1, is not

shown (or suggested) by Wagner et al. Therefore, for these reasons, claims 30 – 33 are not obvious over Wagner et al, alone, or with Targoz.

The 35 U.S.C. 112 rejections of paragraphs 37 – 39 of the Office Action

In paragraph 37 of the Office Action, claims 1 – 29 are rejected under the second paragraph of 35 U.S.C. 112 because the claims do not distinctly point out whether the substrate of the biosensor is coated on one or both sides with a hydrophobic polymer. In response, generic claims 1 and 6 have been amended to clearly recite that the hydrophobic polymer of claim 1 or film of claim 6 is on a surface of the biosensor to be contacted with a physiologically active substance.

In paragraph 38 of the Office Action, claims 15 – 17 are rejected under the second paragraph of 35 U.S.C. 112 as not pointing out how the linker is attached to the biosensor. Claim 15 has been amended to recite that the linker is attached to the hydrophobic polymer, in turn as described in claim 1.

In paragraph 39 of the Office Action, claim 25 is rejected under the second paragraph of 35 U.S.C. 112 as not pointing out to which surface the physiologically active substance is bound via covalent bonding. Claim 25 has been amended to recite that the physiologically active substance is bound to the hydrophobic polymer of claim 1. Also, claim 26 has been amended in the same manner.

For the above reasons, it is respectfully submitted that all of the 35 U.S.C. 112, second paragraph, rejections have been obviated.

Conclusion

In view of the above, reconsideration and allowance are now believed to be in order, and are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the listed telephone number.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

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